IMPACT OF THE NORTH CAROLINA TRANSFORMATION (NCT) INITIATIVE TO REFORM LOW-PERFORMING SCHOOLS

2015-16 through 2016-17

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During the 2015-16 and 2016-17 school years, the North Carolina Transformation (NCT) initiative was implemented to improve the performance of 75 of the state's lowest performing schools. These efforts followed two prior rounds of school reform—the first in response to a court order and the second initiated as a part of Race to the Top (RttT) funded efforts. This research brief summarizes the effects of NCT on student achievement growth, teacher turnover, and principal turnover, and concludes with some lessons learned that may be applicable to the state's plans to support low-performing schools under the Every Student Succeeds Act (ESSA).

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The North Carolina Transformation Initiative

The state's District and School Transformation division (DST), which later became Educator Support Services (ESS), provided coaching and other supports directly to some of the state's lowest performing schools. Unlike the state's prior two rounds of turnaround, NCT limited its scope to schools outside of the largest 10 districts in the state. As a result, NCT schools were largely concentrated in rural areas.

NCT services were intended to begin with a comprehensive needs assessment to identify school needs based on prior test scores and classroom observations as well as interviews and focus groups with school leadership, teachers and other staff, students, and parents. Following the needs assessment, the NCT model called for an "unpacking" in which state facilitators would discuss needs assessment findings with school staff. These two activities were intended to inform the school's improvement plan, which all low-performing schools in North Carolina develop and submit to the state. At the core of NCT were the coaching services that followed. State coaches provided school transformation and instructional coaching to school leaders and teachers, respectively. Coaching activities were intended to align with the improvement plan and be tailored to the unique needs of the school, school leaders, and teachers in the building.

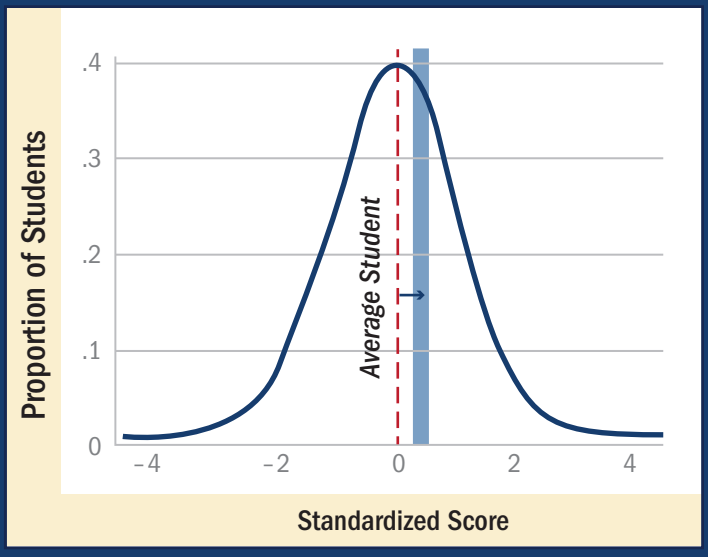
Approximately 32 coaches served 75 NCT schools over the three semesters from January 2016 through June 2017 during which coaching occurred. That capacity stands in stark contrast to the state's RttT services, during which about 150 coaches served 107 schools. Despite resource constraints, NCT coaches conducted 5,928 school visits, with the average coach making 165 school visits during that period.

STANDARD DEVIATION UNITS

We report student achievement results in standard deviation units. To do so, we begin by standardizing each student's test score. The standardized version of a student's test score represents the location where her test score falls on the distribution—or bell curve—of test scores for all students in the sample we are studying. The average standardized score is 0 (shown below as the vertical red dashed line), a below average score is below 0, and an above average score is above 0.

In a given school year, the average elementary and middle school student makes .3 to .35 standard deviations of growth, while the average high school student makes .4 standard deviations of growth. The size of this shift is represented by the horizontal arrow pointing from the 0 line to the light blue shaded region.

Because our results are based on the average student, the results we provide in standard deviation units represent the how far the average student in an NCT school moved in the distribution of all students in the sample, relative to how far the average student in a similar low-performing school moved in that same distribution. A positive number would signify that students in NCT schools grew more than students in comparison schools. A negative number would signify that students in NCT grew less than students in comparison schools.



FINDINGS

In this section, we summarize findings related to student achievement growth, teacher turnover, and principal turnover in NCT schools relative to comparison schools.

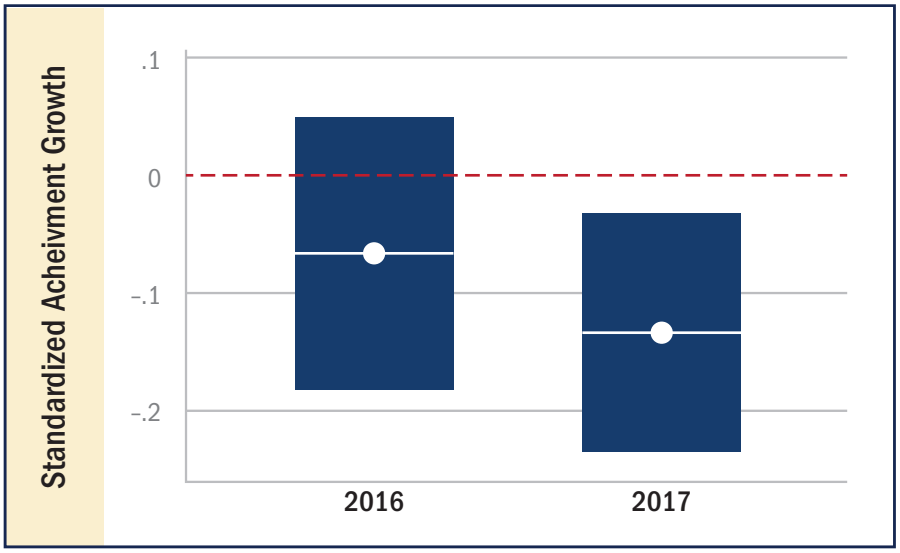
Student Achievement Growth

Interviews and focus groups revealed that principals and teachers overwhelmingly appreciated their coaches. "It's always constructive; it's never to take you down," one teacher said of her coach's feedback. "I know she cares about us personally as well as in the school and she cares about the students." Still, the largely favorable views of coaches did not translate into student achievement gains in NCT schools. Instead, we find that students in NCT schools did no better than students in similar low-performing schools that were just barely ineligible for NCT in 2016, and fared worse in 2017.

Figure 1 displays the effects on student achievement by year. The location of the white marker and horizontal line denotes the estimated effect for students in NCT schools in the year shown. The blue bars represent the 95 percent confidence interval of that estimate. The dashed horizontal line demarcates zero; estimates above this line would indicate a positive effect of NCT on student achievement growth and estimates below the line would indicate a negative effect. If the blue bar crosses this dashed line, then the estimated effect is not statistically significant because the confidence interval overlaps zero. Figure 1 shows that students in NCT schools grew by .13 standard deviations less than students in comparison schools in 2017. While students in NCT schools performed descriptively worse than comparison school peers in 2016, the blue bar shows the estimate is not statistically significant.

During the 2016-17 school year, the average student in an NCT school gained about one-third less on her end-of-grade or end-of-course exams than the average student in similar schools that were just barely ineligible for NCT.

FIGURE 1: Student achievement growth in NCT schools relative to comparison schools.



NOTE: *Dashed red horizontal line denotes 0; estimates above this line would signify a positive effect of NCT while estimates below this line signify a negative effect. White markers on solid horizontal lines denote estimated effects of NCT by year. Blue bars represent 95% confidence intervals around the estimated effect. Where blue bar overlaps with dashed zero line, the estimate is not statistically significant. Where the blue bar does not overlap with dashed zero line, the estimate is statistically significant.*

HOW WE MEASURED PROGRAM EFFECTS

We estimate the effects of NCT by comparing students, teachers, and principals in NCT schools to their counterparts in other low-performing schools that did not receive NCT services. Schools were assigned to NCT based on their proficiency rate on the 2014-15 end-of-grade and end-of-course exams. Eligible schools below a certain level set by the state received NCT supports and schools above that level did not. We compare performance in NCT schools just below that threshold to performance in schools that did not receive services because they were just above that level. The idea behind this approach is that schools just below the threshold are very similar to schools just above the threshold. Any differences in performance can therefore be attributed to NCT. A detailed description of the method we used is provided in our working paper, posted at http://edworkingpapers.com/ai19-103.

The negative effects of NCT in 2017 were largely driven by reading scores. In particular, students in NCT schools grew by .16 standard deviations less than their comparison school peers in reading. The differences between treatment and comparison school students in math and science—while appearing to be negative—were not statistically significant in either year.

These negative effects were consistent in end-of-course and end-of-grade exams across all school levels. They were also similar across student subgroups, with economically disadvantaged students in NCT schools faring similarly to their non-disadvantaged peers, and the lowest performing students from the prior year faring similarly to their higher-performing peers.

NCT did not appear to affect reading comprehension and literacy in kindergarten through second grade; students in these schools made similar gains on the Text Reading and Comprehension (TRC) and Dynamic Indicators of Basic Early Literacy Skills (DIBELS) exams administered in kindergarten through third grades to their comparison school peers. Because these grades are not the focus of the state accountability system (TRC and DIBELS do not count toward a school's proficiency or growth rate, which count toward its low-performing status), it is unlikely that school improvement plans or coaching focused on K-2 teachers and their students.

Teacher Turnover

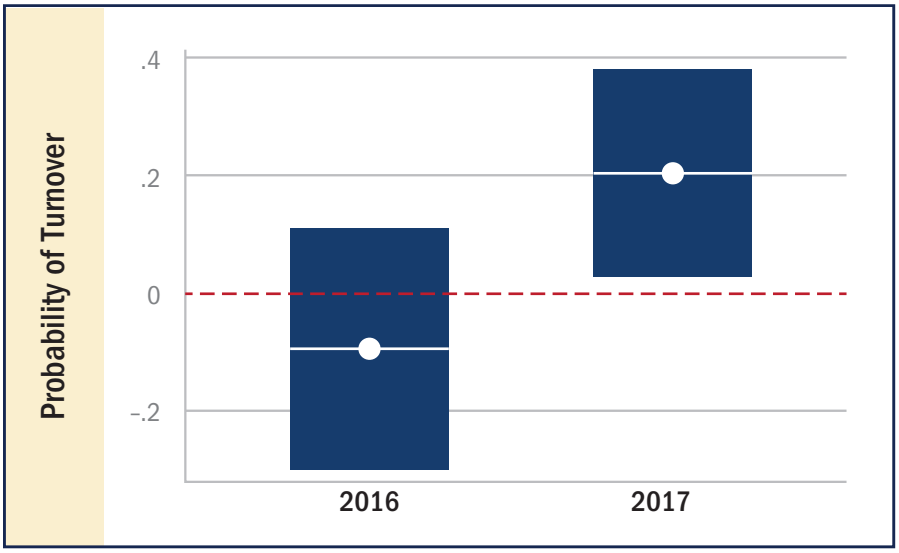
In addition to experiencing lower student achievement growth in 2016-17, NCT schools also lost teachers at a higher rate than similar low-performing schools barely ineligible for NCT services. Figure 2 shows the difference in probability of teacher turnover in NCT schools relative to the comparison schools. An estimate below the dashed zero line signifies a lower probability of turnover for a given teacher, while an estimate above this line signifies a higher probability of turnover in NCT schools relative to comparison schools. While the probability of turnover was slightly lower in NCT schools in 2015-16, the difference was small and not statistically significant. However, in 2016-17, teachers in NCT schools were 21 percentage points more likely to turn over than their counterparts in comparison schools, with about one-third of teachers in NCT schools turning over.

Teacher turnover can be beneficial if schools lose their least effective teachers and replace them with more effective teachers. However, our analysis does not suggest that the turnover that occurred in NCT schools was productive toward increasing the effectiveness of the teacher workforce in NCT schools. The probability of turnover was not higher among less effective teachers (as measured by the state's Education Value-Added System, i.e., EVAAS, or evaluation ratings using the North Carolina Educator Effectiveness System, i.e., NCEES), and the effectiveness level of replacement teachers was no higher in NCT schools relative to comparison schools.

Principal Turnover

Nearly half of NCT schools (46%) lost a principal in the 2015-16 school year, compared with just 21 percent of comparison schools. In 2016-17, about 40 percent of both NCT and comparison schools lost a principal. While the difference in 2015-16 was not statistically significant, the instability associated with losing a principal may have contributed in part to higher teacher turnover and lower student achievement growth.

FIGURE 2: **Teacher turnover in NCT schools relative to comparison schools.**



NOTE: *Dashed red horizontal line denotes 0; estimates above this line would signify higher teacher turnover in NCT schools than comparison schools, while estimates below this line would signify lower teacher turnover in NCT schools. White markers on solid horizontal lines denote estimated effects of NCT on teacher turnover by year. Blue bars represent 95% confidence intervals around the estimated effect. Where blue bar overlaps with dashed zero line, the estimate is not statistically significant. Where the blue bar does not overlap with dashed zero line, the estimate is statistically significant.*

WHY DID NCT SCHOOLS LOSE GROUND?

Principals and teachers who received coaching largely reported that they appreciated their coaches and found the coaching supports useful, but after two years of NCT—and three semesters of coaching—NCT schools were worse off than similar schools that hadn't received state services.

"My School Transformation Coach is awesome," one principal said. "Any time I have a question, she directs me into the right direction. She has been an extreme resource."

To reconcile these positive perceptions of coaching and the frequent coaching visits with the negative effects of NCT, we explored three components of NCT itself: how much coaching each school received, the extent to which NCT was implemented as intended in each school, and the timing of the comprehensive needs assessment from which all subsequent supports were intended to be aligned.

While there was wide variation in the number of coaching visits schools received, schools that received more visits did not fare better than schools that received fewer. Moreover, schools receiving services that aligned very closely to the NCT service delivery strategy did no better than schools receiving a less aligned set of services. That said, it is possible that the content of those visits mattered as much as the quantity or that coaches made more visits to the schools that needed them most.

In contrast, the timing and presence of the comprehensive needs assessment did matter. Specifically, schools that did not receive a needs assessment within the two years prior to NCT services experienced the largest student achievement growth declines. Schools receiving needs assessments in the two years prior to NCT services or during the first semester of coaching also declined relative to comparison schools. Schools that received needs assessments during the second year of services, however, kept pace with comparison schools.

For the 12 schools that did not receive a needs assessment within the two years prior to NCT, the school improvement plan and coaching services did not stem from school needs as defined by an impartial needs assessment shared with school and district staff. Alignment across state supports, district policies and services, and school-level efforts may therefore have been lacking—thus adding new disruption to an already unstable school environment. Meanwhile, services in the 17 schools that received needs assessments in the years prior to NCT were based on needs determined before those schools were assigned to NCT. Because of the gap in time between the needs assessment and services, the needs that were identified—such as instructional quality in particular grades or subjects, or school climate challenges—may no longer have been accurate. High staff turnover may have compromised the effectiveness of the CNAs. With about one-third of teachers and up to nearly half of principals turning over in these schools each year, many staff were not yet working in the NCT school when the needs assessment was conducted. Many of the principals and school improvement team members charged with developing the school improvement plans may have been unaware of the needs assessment findings and, therefore, unable to take them into account in their planning.

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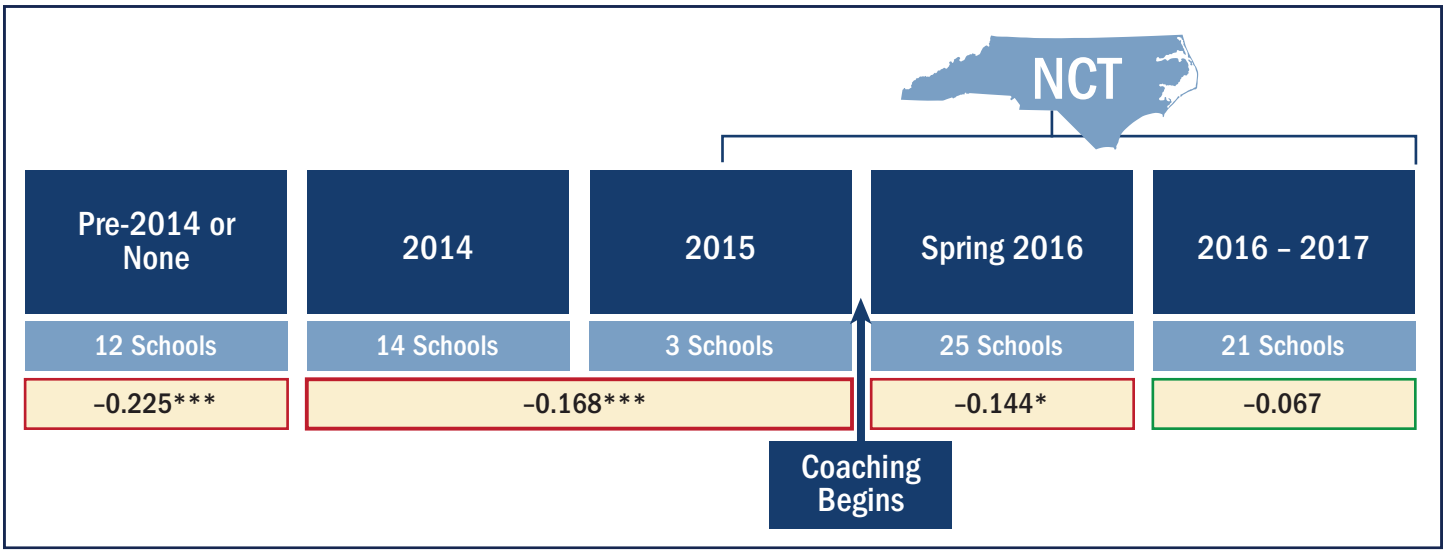
FIGURE 3: Needs Assessment Presence and Timing



NOTE: *Asterisks denote statistical significance of estimate. ***p<.001, **p<.01, *p<.05*

The 25 schools that received needs assessments in spring 2016—the first semester of coaching under NCT—would not have faced the same challenges as those schools with earlier needs assessments or no needs assessment at all. Needs assessment findings were applicable to the staff and school climate in place that year. However, these schools may have faced two unique challenges. First, they received needs assessment findings after the school improvement plan was already in place and coaching supports were underway. This timing may have disrupted ongoing implementation of the prevailing improvement plan. Second, interviews and focus groups in these schools suggest that the state's communication strategy for needs assessments during this period may have undercut the goals of the needs assessment process. Principals and teachers shared that they felt intimidated by state personnel conducting the needs assessments, staff took offense when observers showed up in their classrooms without prior notice, and many were demoralized by the description of the schools' inadequacies presented in the report after they had committed substantial effort to implementing the school improvement plan.

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"That was the downfall of the school for that year," one principal said of the needs assessment. "That was just a catastrophe. Where we were trying to build staff—the staff took it as just a direct insult, there was nothing positive of what they'd done and where they were as a school."

"In my opinion," the principal added, "that cost me a year because of what it did to the staff."

The NCT evaluation team in summer 2016 shared some of this feedback with NCT leadership and staff, who refined their communication strategy about the needs assessment process and their strategy to present findings to school staff. Later interviews and focus groups suggest these changes were successful, with schools that received needs assessments beginning in fall 2016 viewing them more favorably. While these schools receiving later needs assessments did not outperform comparison schools, their students made gains similar to their comparison school peers.

LOOKING AHEAD

The state drew on limited resources to implement NCT and these resources have continued to dwindle since the first year of NCT. State budget cuts for the 2018-19 fiscal year led to 29 layoffs in Educator Support Services (ESS), the office into which DST folded following NCT. These layoffs hit the office charged with serving low-performing schools particularly hard given its already scant resources after RttT funds dried up. An even smaller staff is now charged with supporting 114 low-performing schools under ESSA. The state will continue its efforts to provide direct services to low-performing schools and districts through instructional coaching, school transformation coaching, and district transformation coaching with its reduced staff. Lessons learned from NCT may help to inform the state's efforts to support its low-performing schools under the new model.

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Recruiting and retaining highly effective teachers. North Carolina's supports for low-performing schools have largely focused on developing the skills of the educators already in these schools. But when more than one-third of teachers and principals turn over each year, the individual capacity building at the core of the coaching services goes out the door when the coached teacher or principal leaves. Successful school reforms throughout the country (e.g., Los Angeles, Massachusetts, Tennessee) have prioritized not just the development of existing teachers but also recruiting and retaining highly effective teachers.

Spread too thin? The state under both RttT and NCT tried to serve all schools in the bottom 5 percent of proficiency rates. While these efforts produced some positive effects under RttT—in particular among high schools and the very lowest performing schools—they seemed to do more harm than good under NCT, which was financed through existing funds rather than a large federal grant. ESSA will not provide the state with supplemental funds to support its lowest performing schools, so services will need to be delivered with limited resources and even fewer staff than NCT. North Carolina was unique under RttT in its effort to serve every school in the bottom 5 percent with similar services. Other states with more consistently successful RttT services (e.g., Massachusetts, Tennessee) focused most of their efforts on a subset of low-performing schools. This type of focused intervention may be more likely to improve low-performing schools—and less likely to add volatility to schools already struggling with instabilities.

Minimize disruption. While school turnaround models under RttT have called for a deliberate disruption of the status quo in low-performing schools, unintentional disruptions can serve to undermine reform efforts rather than promote them. For example, deliberate disruption may include replacing the staff or changing governance structures, while unintentional disruption may come in the form of sporadic and poorly communicated state supports that fail to align with district and school efforts already underway. Some of these unintentional disruptions may have detracted from otherwise valuable coaching supports in NCT schools. By minimizing such disruptions under ESSA, the state may avoid the unintended consequences that arose under NCT.

Draw from guiding principles. As part of the NCT evaluation, the research team has compiled a set of guiding principles for improving low-performing schools. These guiding principles are outlined in a policy brief **here**. (https://stateboard.ncpublicschools.gov/resources/other-reports/36002nctguidingprinciplesbriefbrochure.pdf)

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